

SERVICE MANUAL

QUARTZ PLL SYNTHESIZER TUNER

SANSUI TU-S9



• SPECIFICATIONS

FM Section

Tuning range	87.5 to 108 MHz
Usable sensitivity	
Mono IHF	10.5 dBf (1.8 μ V; T100)
DIN	0.9 μ V
50 dB quieting sensitivity	
Mono	14.5 dBf
Stereo	36.0 dBf
Signal to noise ratio at 65 dBf	
Mono	85 dB
Stereo	78 dB
Distortion at 65 dBf	
Mono	less than 0.06 % at 100 Hz less than 0.06 % at 1,000 Hz less than 0.06 % at 6,000 Hz
Stereo	less than 0.07 % at 100 Hz less than 0.07 % at 1,000 Hz less than 0.07 % at 6,000 Hz
Alternate channel selectivity (at 400 kHz)	
Capture ratio	60 dB
Image response ratio	1.0 dB
Spurious response ratio	70 dB (at 98 MHz)
Stereo separation	80 dB (at 98 MHz)
Frequency response Stereo	40 dB at 100 Hz 52 dB at 1,000 Hz 42 dB at 10,000 Hz 30 to 18,000 Hz +0.3 dB -0.8 dB
Antenna input impedance	300 ohms balanced 75 ohms unbalanced

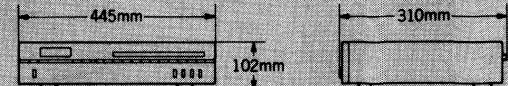
AM Section

Tuning range	525 to 1,605 kHz (10 kHz)* 531 to 1,602 kHz (9 kHz)
Usable sensitivity	55 dB/m
Selectivity (± 9 kHz)	34 dB
Signal to noise ratio	46 dB
Distortion (at 30 % Modulation, 80 dB/m)	less than 0.6 %
Image response ratio	45 dB at 1,000 kHz
IF response ratio	35 dB at 1,000 kHz

Others

Output voltage and impedance	0.775 V/2.2 kilohms
OUTPUT	225 mV
Dolby FM	
Power requirements	120, 220, 240 V (50/60 Hz)
For U.S.A. and Canada	120 V (60 Hz)
Power consumption	14 W.

Dimensions



Weight	4.2 kg (9.3 lbs) net 5.2 kg (11.5 lbs) packed
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* AM CHANNEL

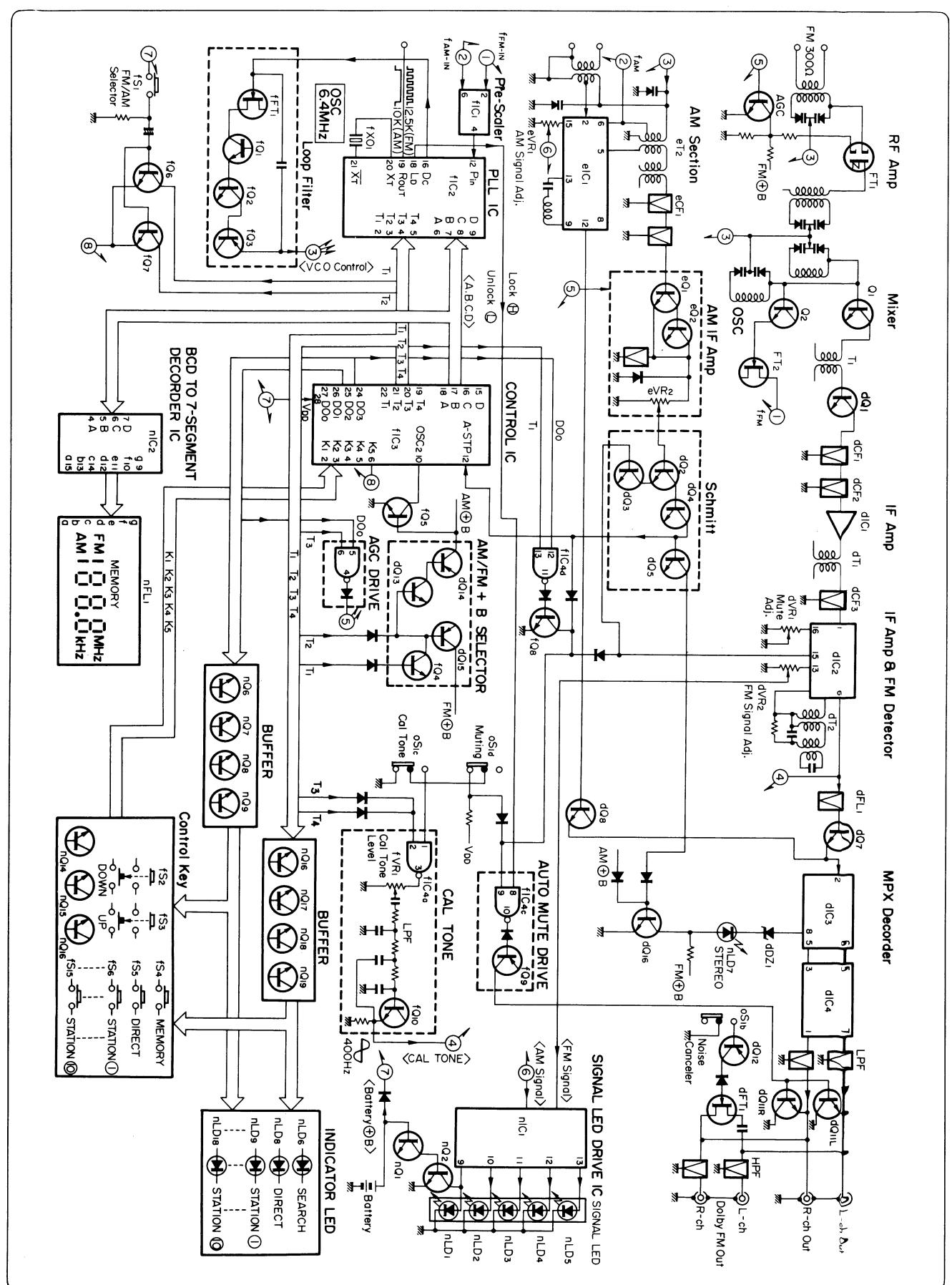
AM programs are being broadcast under channel plans which, depending on the broadcasting area in the world, are characterized by different channels (frequency intervals) between broadcasting station. In case some adjustment are needed, read NOTES on Page 9.

- Design and specifications subject to changes without notice for improvements.
- In order to simplify the explanation, illustrations may sometimes differ from the originals.

Sansui

SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM



2. OPERATIONS

The main circuit operations on Quarts Synthesizer Tuner TU-S9 are almost equal to Model T-77.

For this operations, please refer to the Service Manual for T-77 and the Technical Manual AO-1006 for PLL Quarts Synthesizer Tuner. On this section explains newly featured DIRECT SET tuning function which is not available on T-77.

2-1. How to use the DIRECT SET tuning function

1) Set the FM/AM MODE key to FM or AM as desired broadcasting station band.

2) Push the DIRECT SET key.

DIRECT SET indicator will be lighten up, and all digits on the frequency display are erased to "0" (Zero).

3) Push the STATION keys from higher digit of desired station frequency.

For example, when the frequency of the station is 96.9 MHz, push the STATION key No. 9 and No. 6 then No. 9 again.

4) Push the CALL key (Common use with MEMORY key).

The DIRECT SET indicator turns OFF, and the station of the frequency selected in 3) is received.

2-2. DIRECT SET tuning circuit operation

(Refer to Fig. 1-1)

1) By depressing the DIRECT SET key fS5, digit signal from Output Terminal T1 of TC9124AP is forwarded to Input Terminal K2 through fD18.

2) Once the digit signal is applied, each terminal of Indication Output D0o, Load Signal Output L, Digit Signal Inputs K1 to K5 and Frequency Data Outputs A to D of TC9124AP are processed as follows.

a. The Indication Output Terminal D0o generates inphase pulse signal with T1 generates. This signal drives nQ6, and turns ON the DIRECT SET indicator nLD8 by combination with nQ19 kept turning ON and OFF by the digit signal from T1.

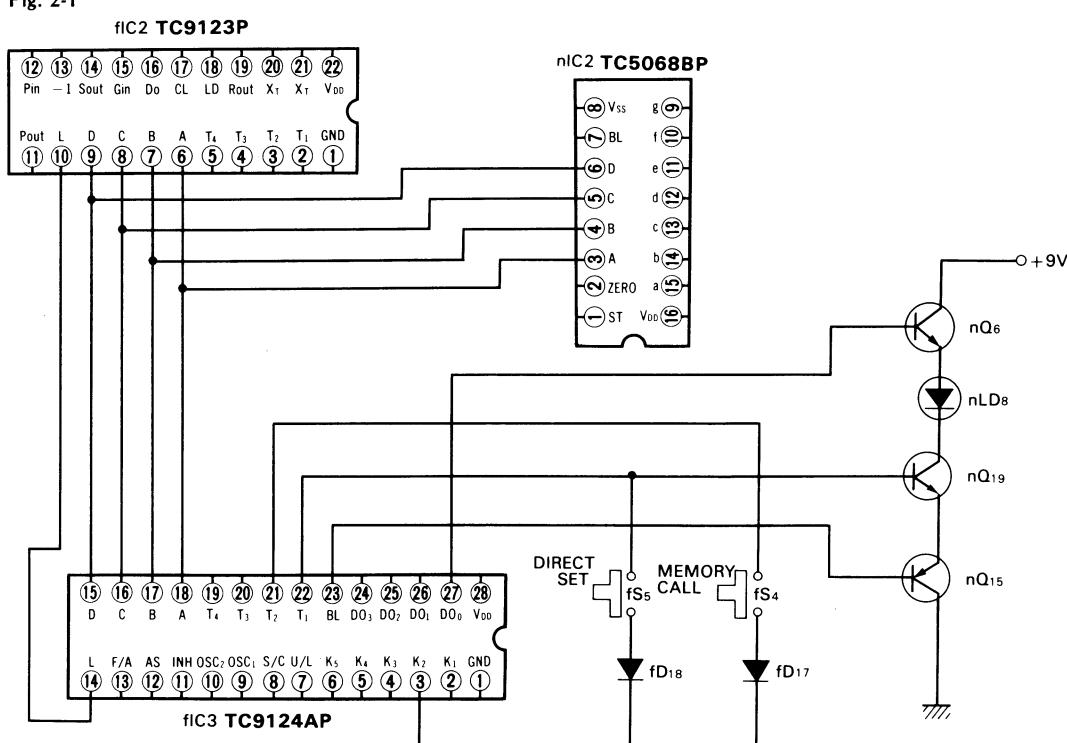
On the other hand, indication blanking driver nQ15 is controlled by output signal from BL Terminal of TC9124AP. But normally this BL Terminal keeps "L" level in other case of blanking operation. Therefore, nQ15 is held ON state most of the time.

- b. The Load Signal Output Terminal L stops its load signal that is sent to Load Signal Input Terminal of TC9123P. Frequency Data Input Terminals A to D of TC9123P close these input gates, and keep last data from TC9124AP.
- c. The Frequency Data Output Terminals A to D generates frequency data pulses of which means that the frequency is "0" (Zero). These data pulses are sent to Frequency Data Input Terminals A to D of TC5068BP, and the frequency display indicates "000.0 MHz".
- d. The Digit Signal Input Terminals K1 to K5 are functionally converted to work for setting the frequency data, and the STATION keys 1 to 10 become data input keys as follows.

STATION keys	1	2	3	4	5	6	7	8	9	10
Set data	1	2	3	4	5	6	7	8	9	0

- 3) Under this condition, the Frequency Data Output Terminals A to D generate the frequency data pulses of which means that is desired frequency by depressing the STATION keys from higher digit of desired frequency. TC5068BP reads this frequency data, and the frequency is indicated on the display tube.
- 4) Then the digit signal from T2 of TC9124AP is applied to K2 by depressing the CALL key (Common use with MEMORY key) fS4, the Load Signal Output Terminal L generates the load signal, and the Frequency Data Input Terminals A to D open the gates to load the frequency data pulses.
- 5) After loading the data, each terminal of TC9123P controls tuning section to receive the frequency selected in 3).

Fig. 2-1

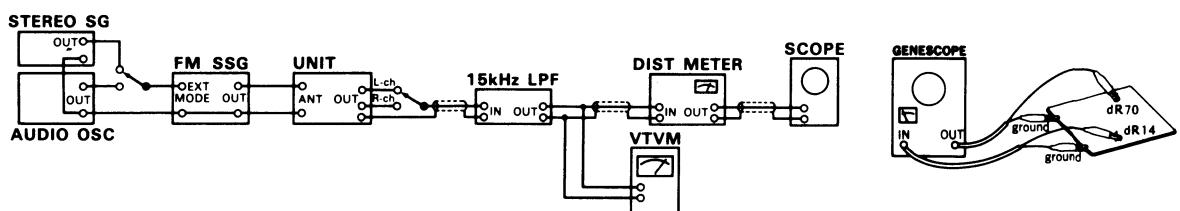


3. ADJUSTMENTS

3-1. FM Adjustment (See Parts Location on Page 5)

1) FM IF, RF Adjustment and Dial Calibration

Note: 1. Selector FM 2. FM Mode MONO



STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	Reference Frequency Adj.	98 MHz ANT Input 65 dBf (59.8 dB) No. MOD. FM SSG	ANT terminal 300Ω	Lead wire of dR70 (F-3277) Use Freq. counter	fTC1 (F-3277)	10.750 MHz (White) 10.725 MHz (Orange) 10.700 MHz (Red) 10.675 MHz (Blue) 10.650 MHz (Black)	Adjust for the frequency rank of the ceramic filter used
2.	IF Coil Adj.	98 MHz ANT Input 30 dBf (24.8 dB), 1 kHz (100% MOD.), FM SSG	Same as above	Lead wire of dD2 (F-3277) DC Volt Meter	dT1 (Front-end) dT1 (F-3277)	Max. Output	
3.	Discriminator Coil Adj. In case of using Genescope	1 No Input	—	Between dTP1 & dTP2 (F-3277) DC Volt Meter	dT1 (F-3277)	DC 0 V ± 0.1 V	
	2 Output 80 dB, Genescope	dR70 (F-3277)	Lead wire of dR14 (F-3277)	dT2b, dT1 (F-3277)	Steep linearity of S curve. Make symmetrical S curve.		
	Discriminator Coil Adj. In case of using Dist meter	1 98 MHz ANT Input 65 dBf (59.8 dB), 1 kHz (100% MOD.), FM SSG	ANT terminal 300Ω	Between dTP1 & dTP2 (F-3277) DC Volt Meter	dT1 (F-3277)	DC 0 V ± 0.1 V	
		2 Same as above	Same as above	OUTPUT L-CH or R-CH, Dist Meter	dT2a, dT2b, dT1 (F-3277) T1 (Front-end)	Min. THD	
4.	88 MHz Dial Calibration	1 No Input	—	Frequency Display	Tuning Knob	88 MHz	
	2 No Input	—	eJW1 (F-3277) DC Volt Meter	T2 (Front-end)		3.0 V ± 0.1 V	
5.	108 MHz Dial Calibration	1 No Input	—	Frequency Display	Tuning Knob	108 MHz	
	2 No Input	—	eJW1 (F-3277) DC Volt Meter	dTC4 (F-3277)		21.0 V ± 0.1 V	
6.	98 MHz RF Adj.	98 MHz ANT Input Minimum value as low as possible to perform the adjustment. 1 kHz (100% MOD.), FM SSG	ANT terminal 300Ω	OUTPUT L-CH or R-CH, VTVM & SCOPE	TC1, TC2, TC3 (F-3277)	Max. Output	
7.	Signal Indicator Adj.	98 MHz ANT Input 55 dBf (49.8 dB) 1 kHz (100% MOD.), FM SSG	Same as above	Signal Indicator	dVR2 (F-3277)	S Indicator LED light up.	

2) FM STEREO Adjustment

1. FM Mode AUTO

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	PLL VCO Adj.	98 MHz ANT Input 65 dBf (59.8 dB), FM SSG, Pilot 19 kHz (9% MOD.), R or L MODE 1 kHz + Pilot (100% MOD.), Stereo SG	ANT terminal 300Ω	Stereo indicator	dVR3 (F-3277)	Light up	Adjust the VR within center level
	PLL VCO Adj. In case of using Freq.	98 MHz ANT Input 65 dBf (59.8 dB), FM SSG, No MOD.	Same as above	dTP3 (F-3277) Freq. counter	dVR3 (F-3277)	76 kHz ± 100 Hz	
2.	19 kHz Pilot Canceler Adj.	98 MHz ANT Input 65 dBf (59.8 dB), FM SSG, Pilot 19 kHz (9% MOD.), Stereo SG.	Same as above	dR60L or dR60R (F-3277) VTVM & SCOPE	dVR4 (F-3277)	Minimum Output	

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
3.	Separation Adj.	98 MHz ANT Input 65 dBf (59.8 dB), FM SSG, Pilot 19 kHz (9% MOD.), L MODE 1 kHz + Pilot (100% MOD.), STEREO SG.	Same as above	OUTPUT L-CH VTVM & SCOPE	—	Read the indication on VTVM	Confirm that R → L-CH separation is more than 45 dB
				OUTPUT R-CH VTVM & SCOPE	dVR5 (F-3277)	—50 dB from the indication above.	
4.	Muting level Adj.	98 MHz ANT Input 15 dBf (9.8 dB), FM SSG, Pilot 19 kHz (9% MOD.), L or R MODE 1 kHz + Pilot (100% MOD.), STEREO SG.	Same as above	Stereo indicator or OUTPUT L-CH or R-CH VTVM & SCOPE	dVR1 (F-3277)	Stereo indicator turns ON or Output Signal comes out	
5.	Calibration Level Adj.	98 MHz ANT Input 65 dBf (59.8 dB), 1 kHz (100% MOD.), FM SSG.	Same as above	OUTPUT L-CH or VTVM & SCOPE	—	Read the indication on VTVM	
					fVR1 (F-3277)	—10 dB from the above reading when turn the CAL TONE switch on.	

◆ Selection of Intermediate Frequencies (FM)

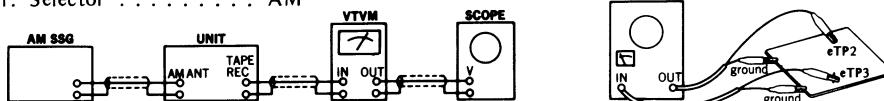
- 1) When the central frequency (shown by a color) of the ceramic filter is changed, the following connection must be made by using jumper wires.
- 2) Unity the color marks of the FM ceramic filters(dCF1, dCF2, dCF3) on the F-3277 with the same color.

Colouring	Intermediate frequency	Connecting Position of Jumper wire on F-3277		
		eJW9	eJW10	eJW11
BLACK	10.650 MHz	○	—	○
BLUE	10.675 MHz	○	○	○
RED	10.700 MHz	—	—	—
ORANGE	10.725 MHz	—	○	—
WHITE	10.750 MHz	○	—	—

3-2. AM Adjustment (See Parts Location on Page 5)

1) AM IF Adjustment and Dial Calibration

Note: 1. Selector AM



STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	IF Coil Adj.	Output 60 dB, Genescope	eTP2 (F-3277)	eTP3 (F-3277)	eCF1, eT3 (F-3277)	Max. Waveform	
2.	531 kHz Dial Calibration	1 No Input	—	Frequency Display	Tuning Button	531 kHz	Repeat STEP 2 & 3 a few times.
		2 No Input	—	eTP1 (F-3277) DC Volt Meter	eT2 (F-3277)	2.2 V ± 0.1 V	
3.	1602 kHz Dial Calibration	1 No Input	—	Display Indication	Tuning Knob	1602 kHz	Repeat STEP 2 & 3 a few times.
		2 No Input	—	eTP1 (F-3277) · DC Volt Meter	eTC1 (F-3277)	22.5 V ± 0.1 V	
4.	603 kHz RF Adj.	603 kHz ANT Input 70 dB/m, 400 Hz (30% MOD.), AM SSG.	ANT terminal	OUTPUT L-CH or R-CH VTVM &	eT1 (F-3277)	Max. Output	
5.	1404 kHz RF Adj.	1404 kHz ANT Input 70 dB/m, 400 Hz (30% MOD.), AM SSG	Same as above	Same as above	eTC2 (F-3277)	Max. Output	
6.	Signal Indicator Adj.	990 kHz ANT Input 100 dB/m 400 Hz (30% MOD.), AM SSG.	Same as above	Signal Indicator	eVR1 (F-3277)	5 Indicator LED light up.	
7.	Auto Tuning Stop Level Adj.	990 kHz ANT Input 70 dB/m 400 Hz (30% MOD.), AM SSG.	Same as above	Frequency Display	eVR2* (F-3277)	990 kHz	Operate the Auto Search Tuning from upper or lower frequency than 990 kHz.

* Normally, Automatic Stop Function works if eVR2 is set to mechanically center position. However, if the function does not work properly, turn eVR2 as follows.

- 1) In case of the Auto Search Tuning does not stop completely, turn eVR2 clockwise to increase the auto stop level.
- 2) In case of the Auto Search Tuning stops at a little before 990 kHz, turn eVR2 counterclockwise to decrease the auto stop level.

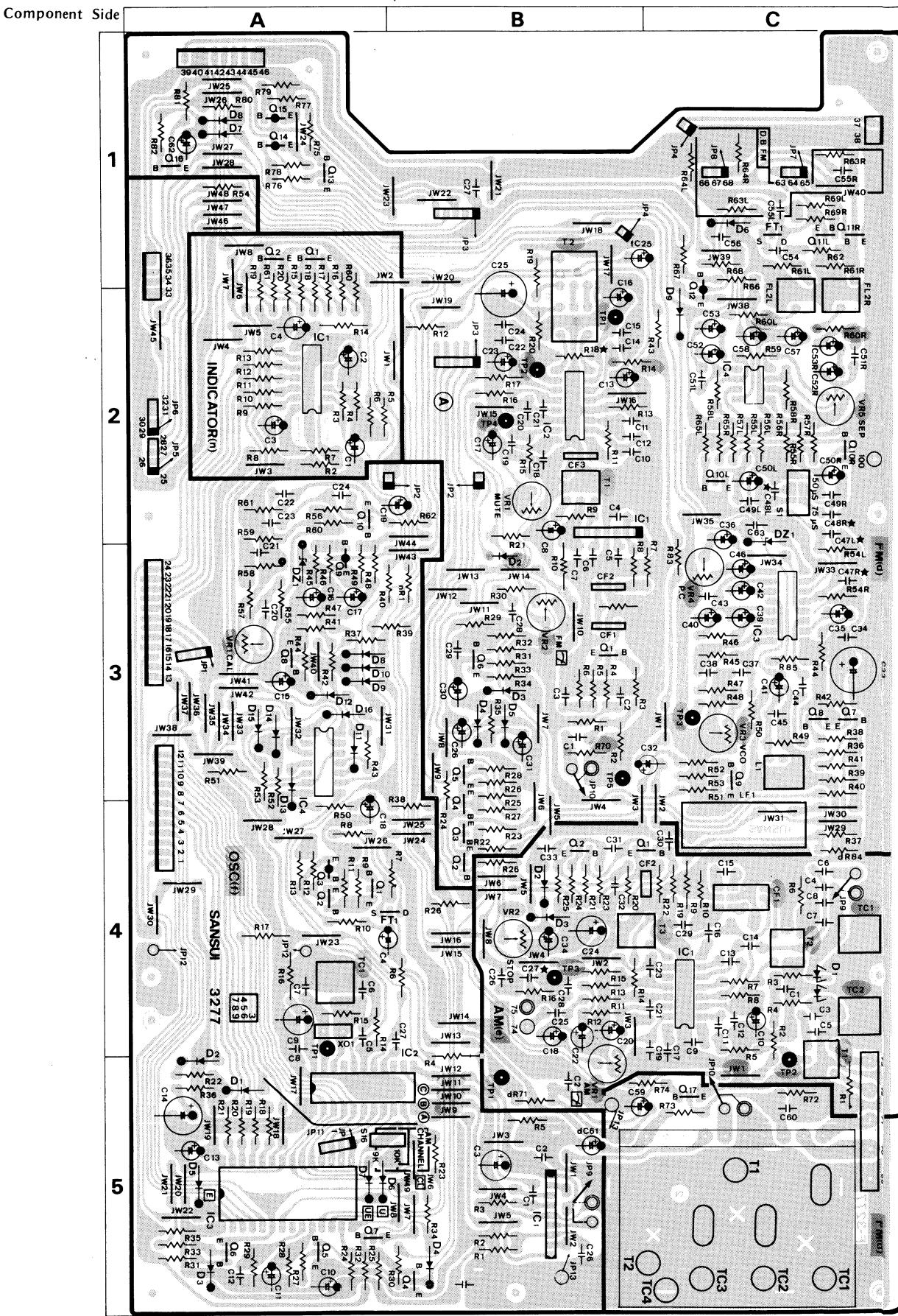
● Abbreviations

Equipment	
AM FM Generator Oscilloscope	Genescope
AM Standard Signal Generator	AM SSG
FM Standard Signal Generator	FM SSG
FM Stereo Generator	Stereo SG
Oscilloscope	Scope
Audio Oscillator	Audio Osc.
Distortion Meter	Dist. Meter
(Others)	
Antenna	ANT.
Modulation	MOD.
Total Harmonic Distortion	T.H.D.

4. PARTS LOCATION & PARTS LIST

4-1. F-3277 Tuner & Control Circuit Board (Stock No. 07086701)

- Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors, which was appended previously to Sansui Manual.



Parts List

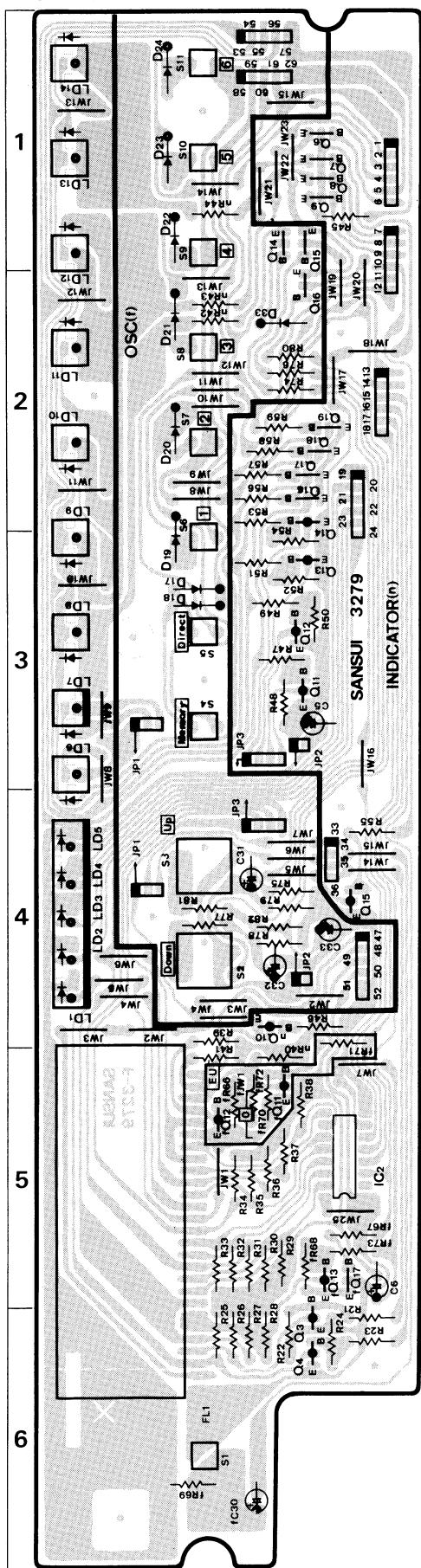
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
dZ1	07271300	FM Frontend Pack FD216U18	dC39	46032600	0.47μF 50V E.C.	fQ3	07194700, 1	2SA1015 Y, GR
●Transistor			dC40	46033000	3.3μF 50V E.C.	fQ4	07194800, 1	2SC1815 Y, GR
dQ1	03063400 ~ 2	2SC1674 M, L, K	dC42	46033000	3.3μF 50V E.C.	fQ5	07194800, 1	2SC1815 Y, GR
dQ2	03059501 ~ 3	2SC945 Q, P, K	dCF1	07257200	Ceramic Filter	fQ6	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F	dFL2	07196400	Low Pass Filter	fQ7	07194800, 1	2SC1815 Y, GR
dQ3	07194800, 1	2SC1815 Y, GR	dL1	42407200, 1	FM MPX Coil 19 kHz	fQ8	07194800, 1	2SC1815 Y, GR
dQ4	03059501 ~ 3	2SC945 Q, P, K	dT1	42359300	FM IF Coil 10.7 MHz	fQ9	07194700, 1	2SA1015 Y, GR
	03068301, 2	2SC2320 E, F	dT2	07236800	FM IF Coil	fQ10	07194800, 1	2SC1815 Y, GR
dQ5	07194800, 1	2SC1815 Y, GR	dVR1	10351500	Semi Variable Resistor 22 kΩ (B) (Muting Level)	●FET		
dQ6	03059501 ~ 3	2SC945 Q, P, K	dVR2	10351900	Semi Variable Resistor 100 kΩ (B) (FM Signal)	fFT1	03703001, 2	2SK117 Y, GR
	03068301, 2	2SC2320 E, F	dVR3	10342500	Semi Variable Resistor 4.7 kΩ (B)		03703401, 2	2SK163 K2, L
dQ7	07194800, 1	2SC1815 Y, GR	dVR4	10351700	(VCO)	●IC		
dQ8	07225400, 1	2SC2320L F, G	dVR5	10352500	Semi Variable Resistor 47 kΩ (B) (Pilot Canceller)	fIC1	07197600	TD6102P
dQ9	03059501 ~ 3	2SC945 Q, P, K			Semi Variable Resistor 1MΩ (B) (Separation)	fIC2	07197700	TC9123P
	03068301, 2	2SC2320 E, F	●Transistor			fIC3	07197900	TC9124AP
dQ10	07194800, 1	2SC1815 Y, GR	eQ1	03062400 ~ 2	2SC1675 M, L, K	fIC4	07245800	TC4081BP
	03059501 ~ 3	2SC945 Q, P, K	eQ2	03062400 ~ 2	2SC1675 M, L, K		07272700	MSM4081RS
dQ11	03068301	2SC2320 E, F	●IC			●Diode		
	07194800, 1	2SC1815 Y, GR	eIC1	03603900	HA1197	fD1	03117600	1S2473D
dQ12	07194700, 1	2SA1015 Y, GR	●Diode			fD2	03117600	1S2473D
	03012700, 1	2SA999 E, F	eD1	07197200	KV1226 (Variable Capacitance Diode)	fD3	03117600	1S2473D
dQ13	07197001, 2	2SA733A Q, P	eD2	03117600	1S2473D	fD4	03117600	1S2473D
	03059501 ~ 3	2SC945 Q, P, K	eD3	03117600	1S2473D	fD6	07176400	1S2473HS
dQ14	03068301, 2	2SC2320 E, F	●Zener Diode			fD7	07176400	1S2473HS
dQ15	07194800, 1	2SC1815 Y, GR	eTC1	12301000	Trimmer Capacitor 15 pF	fD8	03117600	1S2473D
dQ16	03033601, 2	2SB560MP E, F	eTC2	12301000	Trimmer Capacitor 15 pF	fD9	03117600	1S2473D
	03033601, 2	2SB560MP E, F	eCF1	07198500	AM IF Coil	fD10	03117600	1S2473D
dQ17	03059501 ~ 3	2SC945 Q, P, K	eCF2	07202700	Ceramic Filter	fD11	03117600	1S2473D
	03068301, 2	2SC2320 E, F	eT1	07198800	AM RF Coil	fD12	03117600	1S2473D
	07194800, 1	2SC1815 Y, GR	eT2	07198700	AM RF Coil	fD13	03117600	1S2473D
	03059501 ~ 3	2SC945 Q, P, K	eT3	42306200	AM IF Coil 455 kHz	fD14	03117600	1S2473D
	03068301, 2	2SC2320 E, F	eVR1	10351300	Semi Variable Resistor 10 kΩ (B) (AM Signal)	fD15	03117600	1S2473D
	07194800, 1	2SC1815 Y, GR	eVR2	10351700	Semi Variable Resistor 47 kΩ (B) (AM Stop Level)	fD16	03117600	1S2473D
●FET			●Transistor			●Zener Diode		
dFT1	03703404, 5	2SK163 M1, M2	fQ1	07194800, 1	2SC1815 Y, GR	fDZ1	03177800	RD7.5E-B
●IC			fQ2	07194800, 1	2SC1815 Y, GR	fTC1	12301000	Trimmer Capacitor 15 pF
dic1	03605900	TA7302P	●IC			fVR1	10351500	Semi Variable Resistor 22 kΩ (B) (AL. Tone)
dic2	07196000	HA12412						
dic3	03606800	HA11223W						
dic4	03613800	NJM4559D						
●Diode								
dd2	03401500	MV12 (Varistor)						
dd3	03117600	1S2473D						
dd4	03117600	1S2473D						
dd5	03117600	1S2473D						
dd6	03117600	1S2473D						
dd7	03117600	1S2473D						
dd8	03117600	1S2473D						
dd9	03117700	10E-2						
●Zener Diode								
ddZ1	07178900	RD6.2E B						

● Abbreviations

C.R.	Carbon Resistor	E.L.	Low Leak Electrolytic Capacitor
S.R.	Solid Resistor	E.B.	Bi-Polar Electrolytic Capacitor
Ce.R.	Cement Resistor	E.BL.	Low Leak Bi-Polar Electrolytic Capacitor
M.R.	Metal Film Resistor	Ta.C.	Tantalum Capacitor
F.R.	Fusing Resistor	F.C.	Film Capacitor
N.I.R.	Non-Inflammable Resistor	M.P.	Metallized Paper Capacitor
C.C.	Ceramic Capacitor	P.C.	Polystyrene Capacitor
C.T.	Ceramic Capacitor, Temperature Compensation	G.C.	Gimmick Capacitor
E.C.	Electrolytic Capacitor		

4-2. F-3279 Digitally Display Circuit Board (Stock No. 07086901)

Component Side



Parts List

Parts No.	Stock No.	Description
● Transistor		
fQ13	07194700, 1	2SA1015 Y, GR
fQ14	07294800, 1	2SC1815 Y, GR
fQ15	07194800, 1	2SC1815 Y, GR
fQ16	07194800, 1	2SC1815 Y, GR
fQ17	07194800, 1	2SC1815 Y, GR
● Diode		
fD17	03111600	1S2473D
	03111800	1S1588
fD18	03111600	1S2473D
	03111800	1S1588
fD19	03111600	1S2473D
	03111800	1S1588
fD20	03111600	1S2473D
	03111800	1S1588
fD21	03111600	1S2473D
	03111800	1S1588
fD22	03111600	1S2473D
	03111800	1S1588
fD23	03111600	1S2473D
	03111800	1S1588
fD24	03111600	1S2473D
	03111800	1S1588
fD33	03111600	1S2473D
	03111800	1S1588
fS1	07218500	Push Switch (FM/AM Selector)
fS2	07224100	Key Switch (Down)
fS3	07224100	Key Switch (Up)
fS4	07218500	Push Switch (Memory)
fS5	07218500	Push Switch (Direct)
fS6	07218500	Push Switch (Channel 1)
fS7	07218500	Push Switch (Channel 2)
fS8	07218500	Push Switch (Channel 3)
fS9	07218500	Push Switch (Channel 4)
fS10	07218500	Push Switch (Channel 5)
fS11	07218500	Push Switch (Channel 6)
● Transistor		
nQ3	07197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ4	007197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ6	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ7	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ8	07194801, 2	2SC1815 GR, F
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ9	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ10	07197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ11	07197002, 1	2SA733A P, Q
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ12	07197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ13	07197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR
nQ14	07197001, 2	2SA733A Q, P
	03012700, 1	2SA999 E, F
	07194700, 1	2SA1015 Y, GR

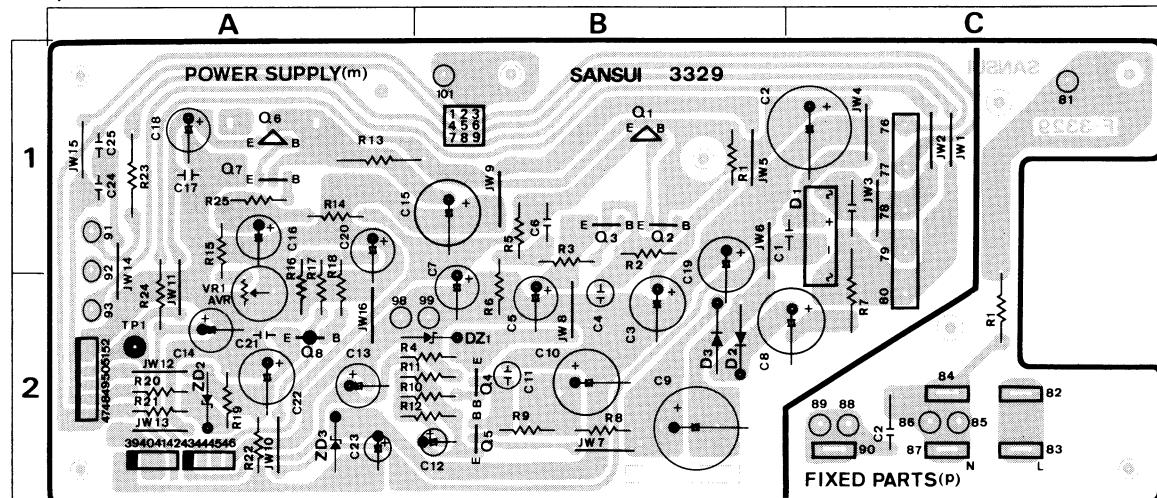
Parts List

Parts No.	Stock No.	Description
nQ15	07206800, 1	2SA952 M, L
	07254800, 1	2SA854 Q, R
nQ16	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ17	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ18	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
nQ19	07194801	2SC1815 GR
	03068302	2SC2320 F
	03059502, 3	2SC945 P, K
•IC		
nic2	07202200	TC6058BP

Parts No.	Stock No.	Description
nFL1	07235200	FL Indicator FIP7D8A
nLD1	07246200	Light Emitting Diode SEL1710K
nLD2	07246200	Light Emitting Diode SEL1710K
nLD3	07246200	Light Emitting Diode SEL1710K
nLD4	07246200	Light Emitting Diode SEL1710K
nLD5	07246200	Light Emitting Diode SEL1710K
nLD6	07243200	Light Emitting Diode GL-5HD5
nLD7	07246200	Light Emitting Diode SEL1710K
nLD8	07243200	Light Emitting Diode GL-5HD5
nLD9	07243200	Light Emitting Diode GL-5HD5
nLD10	07243200	Light Emitting Diode GL-5HD5
nLD11	07243200	Light Emitting Diode GL-5HD5
nLD12	07243200	Light Emitting Diode GL-5HD5
nLD13	07243200	Light Emitting Diode GL-5HD5
nLD14	07243200	Light Emitting Diode GL-5HD5

4-3. F-3329 Power Supply Circuit Board (Stock No. 07086801)

Component Side

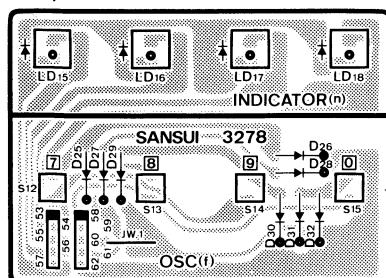
**Parts List**

Parts No.	Stock No.	Description
●Transistor		
mQ1	03083902, 3	2SD313AL E, F
mQ2	03059501, 2	2SC945 Q, P
	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F
mQ3	03059501	2SC945 Q, P
	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F
mQ4	03059501, 2	2SC945 Q, P
	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F
mQ5	03059501, 2	2SC945 Q, P
	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F
mQ6	03083902, 3	2SD313AL E, F
mQ7	03059501, 2	2SC945 Q, P
	07194800, 1	2SC1815 Y, GR
	03068301, 2	2SC2320 E, F
mQ8	07197002, 1	2SA733A P, Q
	07194700, 1	2SA1015 Y, GR
	03012700, 1	2SA999 E, F

Parts No.	Stock No.	Description
●Diode		
mD1	07193300	UB-152LFF
mD2	07112300	10DF2
mD3	07112300	10DF2
●Zener Diode		
mDZ1	03163900	RD6.2E B
mDZ2	03163900	RD6.2E B
	03164000	RD6.2E C
mDZ3	03163100	RD13E B
	03163200	RD13E C
●Resistor		
mR13	00182100	33Ω 1W N.I.R.
mR23	00186200	120Ω 2W N.I.R.
mPL1	07244700	Pilot Lamp
mVR1	10351100	Semi Variable Resistor 4.7 kΩ (B)

4-4. F-3278 Preset Circuit Board (Stock No. 07087101)

Component Side



Parts List

Parts No.	Stock No.	Description
•Diode		
fD25	03111600	1S2473D
	03111800	1S1588
fD26	03111600	1S2473D
	03111800	1S1588
fD27	03111600	1S2473D
	03111800	1S1588
fD28	03111600	1S2473D
	03111800	1S1588
fD29	03111600	1S2473D
	03111800	1S1588
fD30	03111600	1S2473D
	03111800	1S1588
fD31	03111600	1S2473D
	03111800	1S1588
fD32	03111600	1S2473D
	03111800	1S1588
fS12	07218500	Push Switch (Channel 7)
fS13	07218500	Push Switch (Channel 8)
fS14	07218500	Push Switch (Channel 9)
fS15	07218500	Push Switch (Channel 10)
nLD15	07243200	Light Emitting Diode GL-5HD5
nLD16	07243200	Light Emitting Diode GL-5HD5
nLD17	07243200	Light Emitting Diode GL-5HD5
nLD18	07243200	Light Emitting Diode GL-5HD5

- Notes:

The circuit boards, F-3280, F-3397, F-3398 & F-3399 are not supplied as the assembled. However, the individual parts on the circuit boards are provided for orders.

4-5. F-3280 Selector Switch Circuit Board

Parts List

Parts No.	Stock No.	Description
oS1	07243301	Push Switch

4-6. F-3397 Output Terminal Board

Parts List

Parts No.	Stock No.	Description
	22007000	2P Terminal Board

4-7. F-3398 FM Dolby Output Board

Parts List

Parts No.	Stock No.	Description
	22007000	2P Terminal Board

4-8. F-3399 Power Switch Circuit Board

Parts List

Parts No.	Stock No.	Description
pC1	00386100	4700 pF 150V C.C.
pS1	07265300	Push Switch

5. NOTES

5-1. Channel Spacing for AM Broadcasting Frequency

AM programs are being broadcast under channel plans which, depending on the broadcasting area in the world, are characterized by different channels (frequency intervals) between broadcasting stations. In North, South, and Central America, this channel is 10 kHz whereas in the rest of these areas, it is 9 kHz.

This unit is a synthesizer tuner which varies the reception frequency at each 9 kHz or 10 kHz channel (frequency interval) during auto search reception. If the client uses the unit in an area with a different channel plan, he may not be able to receive AM stations. The unit he has purchased has been originally adjusted to the channel in his area. It is therefore necessary to change over the channel setting if he moves to an area with a different channel plan.

It is impossible to receive AM broadcasting in Automatic Search Tuning operation. In this case, use the AM 9 kHz/10 kHz selection switch fS 16 on F-3277.

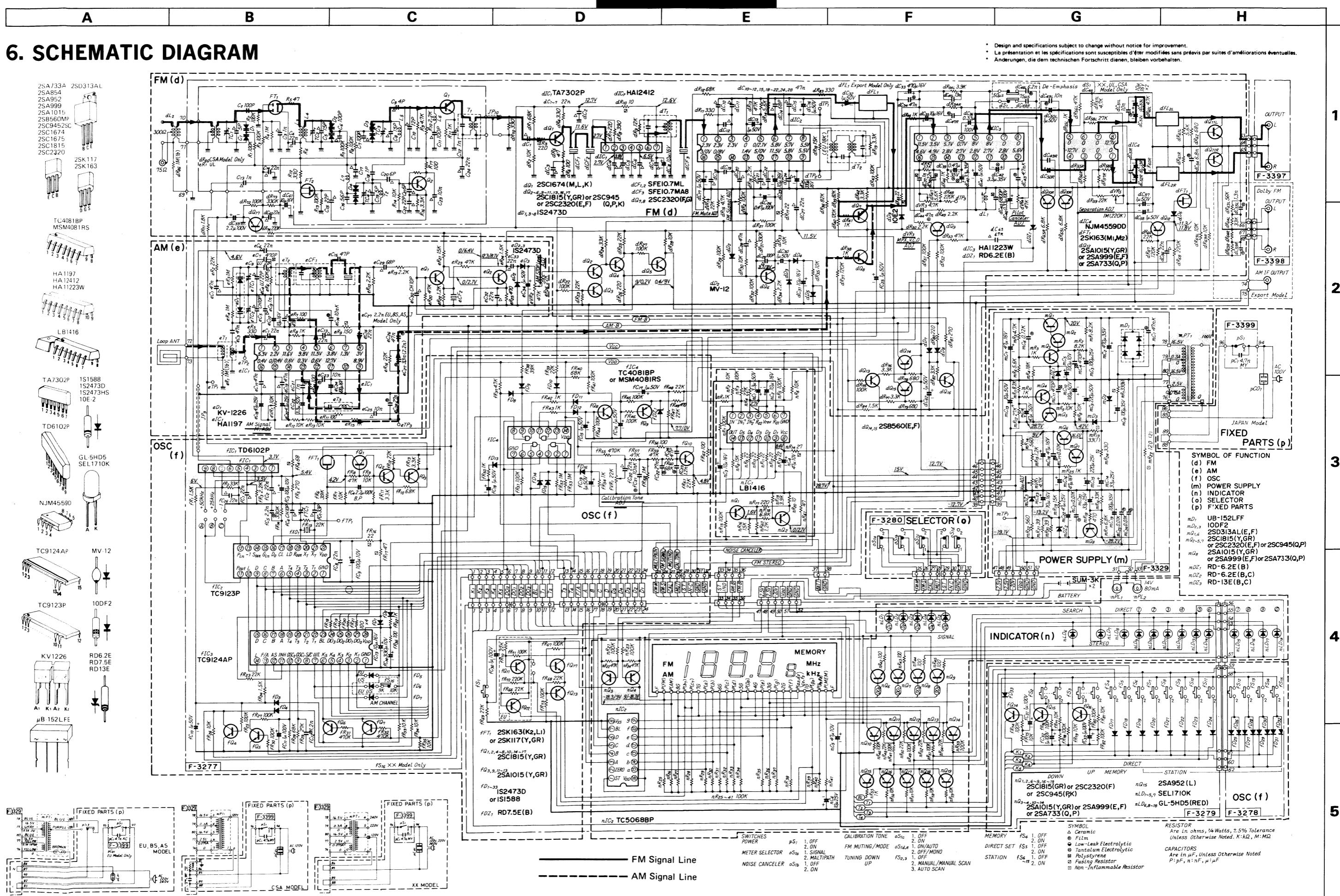
If no switch fS16 is installed, add a diode 1S2473D (Stock No. 03111600) between pin no. 7 and 19 of fIC3 TC9124AP for 10 kHz, or remove fD6 for 9 kHz.

5-2. Channel Spacing for FM Broadcasting Frequency

FM programs are being broadcast under channel spacing of 50 kHz or 100 kHz. Therefore, when a TU-S9 which is set for 100 kHz channel spacing is used in 50 kHz channel spacing area, change the circuit as the following procedure.

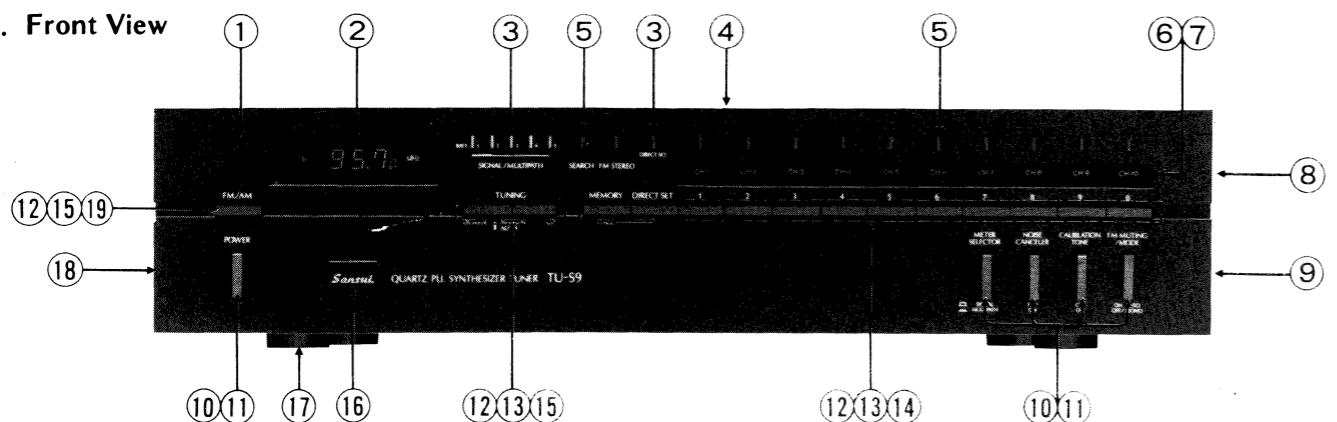
- 1) Confirm that the unit is set for 100 kHz channel spacing by operation of Automatic Search Tuning function.
 - 2) Replace dR18 (15 k Ω 1/4W) on F-3277 printed circuit board with 18 k Ω 1/4W (Stock No. 00229200).
 - 3) Add the following parts to frequency display circuit (F-3279) and OSC circuit (F-3277).

Parts No.	Stock No.	Description	PCB No.
fD5	03117600	1S2473D Diode	F-3277
fQ11	07194700, 1	2SA1015 Y, GR Transistor	F-3279
fQ12	07194700, 1	2SA1015 Y, GR Transistor	
fR66	00230600	22kΩ 1/4W Resistor	
fR70	00230600	22kΩ 1/4W Resistor	
fR71	00225100	100kΩ 1/4W Resistor	
fR72	00230700	220kΩ 1/4W Resistor	

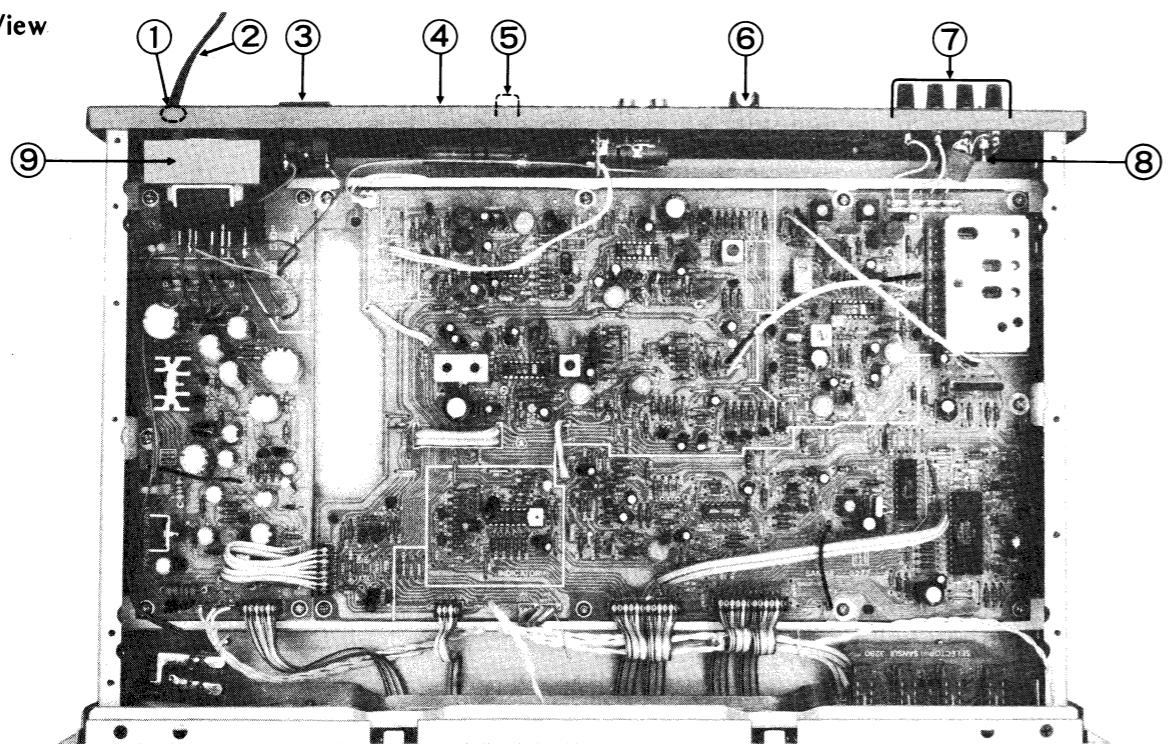


7. OTHER PARTS

7-1. Front View



7-2. Top View



Parts List <Front View>

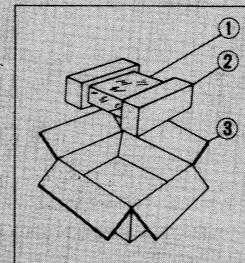
Parts No.	Stock No.	Description
1	07612510	Front Panel Ass'y
2	07611700	FL Window
3	07578100	Indicator (Green)
4	07645000	Wood Bonnet
5	07578000	Indicator (Red)
6	07611800	Station Window
7	07626100	Illumination Case Ass'y
8	07604810	Station Holder
9	07606100	Panel Side Frame (R)
10	07580000	Push Knob
11	07581400	Push Knob Guide
12	07606500	Push Knob
13	07606210	2P Knob Guide
14	07605320	6P Knob Holder
15	07605420	2P Knob Holder
16	07607200	Sansui Badge (A)
17	07662900	Leg
18	07605900	Panel Side Frame (L)
19	07605010	1P Knob Guide

Parts List <Top View>

Parts No.	Stock No.	Description
1	39106000	Strain Relief
2	38004700	Power Supply Cord
3	07189600	AC Outlet
4	07563310	Battery Case Ass'y
5	07237500	1P Input Terminal
6	07193200	Antenna Holder
7	07233800	Antenna Terminal Board
8	07233700	F-type Connector (Female)
9	15001101	Power Transformer

8. PACKING LIST

Parts No.	Stock No.	Description
1	91166920	Vinyl Cover
2	07585600	Styrofoam Packing
3	07609000	Carton Case



9. ACCESSORY LIST

Stock No.	Description
07644100	Operating Instruction
07233600	F-type Connector (Male)
07272400	AM Loop Antenna
46051700	FM Antenna
38103300	PJP Cord
07563000	Antenna Holder
07623200	Station Base (B)